A grayscale, high-contrast photograph of a bowhunter in a forest. The hunter is wearing a camouflage jacket and is holding a bow, with an arrow nocked and ready to be released. The background is a dense forest with trees and foliage.

Maryland's Bowhunter Survey

Final Report

2002-03 and 2003-04

by

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July 2005

Maryland Department of Natural Resources

Wildlife and Heritage Service



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Robert L. Ehrlich, Jr., *Governor*

Michael S. Steele, *Lt. Governor*

C. Ronald Franks, *Secretary*

July 15, 2005

Dear Sportspersons,

The attached report summarizes the Bowhunter Survey data for the 2002-03 and 2003-04 archery seasons. I hope that you will get a chance to read the report, and will also participate in future surveys. Your participation is critical as we continue to monitor Maryland's diverse wildlife resources.

I would like to personally thank each and every bowhunter that took the time to complete and return the Bowhunter Survey form. Your efforts will contribute greatly to our overall knowledge and conservation of Maryland's wildlife resources. If you have not, or do not receive a survey, but are interested in participating, the form can be accessed at www.dnr.maryland.gov prior to the upcoming hunting season.

I also want to express my sincere gratitude to the Maryland Association of Wildlife Conservation (MAWC) for their financial support of this project. Their generous donations have allowed us to increase the distribution of the survey to more archery hunters, which resulted in a larger sample size for 2004 and 2005.

Respectfully,
Robert C. Colona
Furbearer Project Leader

Introduction

Bowhunters annually spend a large number of days in the field, and as a result of this avocation, they tend to be quite observant. These 2 traits enable these individuals to be ideal participants in structured observational surveys like the Bowhunter Survey.

The Bowhunter Survey was established in 2002 in an effort to gain insight into furbearer and other wildlife population levels across Maryland. Survey forms were sent to approximately 10,000 successful bow hunters from the 2001 archery deer season (Figure 1). Survey participants were asked to complete the survey forms and record any observations of wildlife while they were bow hunting. They were also asked a myriad of other questions, such as number of hours hunted, county hunted and if the hunt occurred on public or private land. A total of 422 hunters returned usable survey forms.

This survey was repeated in 2003, with survey forms sent to survey participants from 2002 and successful archery hunters from the 2002 archery deer season. Approximately 10,000 surveys were distributed and 301 hunters returned usable survey forms.

Survey participants recorded information at the county level. Counties were lumped into their respective Physiographic Provinces (Figure 2). In some instances, it was necessary to include a county in only 1 Physiographic Province despite 2 Provinces occurring in that county (Frederick and Cecil). The Physiographic Provinces listed in this report consist of the following counties:

- Appalachian Plateau Province – Garrett
Ridge and Valley Province - Allegany,
Frederick, Washington
- Piedmont Province – Baltimore, Carroll,
Cecil, Harford, Howard,
Montgomery
- Western Coastal Plain Province – Anne
Arundel, Calvert, Charles, Prince
George's, St. Mary's
- Eastern Coastal Plain Province – Caroline,
Dorchester, Kent, Queen Anne's,
Somerset, Talbot, Wicomico,
Worcester

The resulting data was then tabulated and reduced to a standard unit of measurement (observations/100 hours of hunting). This standard unit of measurement was then used to analyze a number of different variables (e.g. lure, elevated stand, month, region, etc.). Standard errors, (SE) where provided, were calculated

using ratio estimators and provide a measure of variability in the results.

It should be noted that different species have varying susceptibility to surveillance. Therefore, variations in observation rates between different species may not be an accurate reflection of comparative densities. Nocturnal species, aquatic species, and species that utilize inaccessible areas or habitat types that bowhunters do not frequent will normally have a lower probability of being observed than do other species.

Although vulnerability to observation varies between species, it remains consistent for individual species during successive years. Species such as beaver have a low probability of being observed, however that probability remains the same from year to year. As a result, one can still detect beaver population changes over a period of years.

The inherent value of this type of survey is to accurately track wildlife population trends through time on a statewide scale. It is important to note that data from a number of successive years is necessary before you can begin to accurately assess these trends. Attached you will find results from the 2002 and 2003 Bowhunter Surveys. Although there is not sufficient year-to-year information for trend analysis at this time, the results do provide insight about the distribution and relative abundance of many wildlife species. As the body of data from this survey increases in future years, the results will supply one of the cornerstones for the conservation and management of many species.

Furbearers

During the 2 years covered by this report, all of Maryland's 14 species of furbearers were observed. With the exception of gray fox and otter, furbearer observations remained relatively constant between the 2 sampling periods (Tables 1 & 2). During 2003, gray fox observations increased substantially in the Eastern Coastal and Ridge and Valley Provinces and contributed to a more than twofold statewide increase (Table 2, Figure 3).

Red fox were the most frequently observed furbearer, with the greatest number of sightings in the Piedmont Province in both years. In descending order of red fox observation rates, the regions are ranked as follows: Piedmont, Eastern Coastal, Ridge and Valley, Western Coastal and Appalachian Plateau. Red fox observations appear to be relatively high with the

exception of the Appalachian Plateau Province. Conversely, it should be noted that coyote observations were correspondingly higher in this province than throughout the rest of the state. In descending order of coyote observation rates, the regions are ranked as follows: Appalachian Plateau, Ridge and Valley, Piedmont, Western Coastal, and Eastern Coastal (Tables 1 & 2).

Bobcat and fisher populations are centered in western Maryland, with observation rates for these 2 species highest in the Appalachian Plateau Province. Raccoon, opossum, and striped skunk are distributed throughout the state and observation rates were fairly consistent between the provinces (Tables 1 & 2).

Aquatic furbearer (mink, muskrat, beaver, and otter) observation rates are typically lower than many of the terrestrial species. Excluding mink, which were not observed in the Eastern Coastal Province, all other aquatic furbearer observations remained stable throughout the provinces and sampling periods (Tables 1 & 2).

Long tailed weasel were the least observed furbearer and were only recorded in the Appalachian Plateau and Piedmont Provinces (Tables 1 & 2).

The use of lures and/or cover scents did not appreciably influence observations of furbearers (Tables 3 & 4, Figures 4 & 5). However, the use of an elevated stand did result in increased observation rates for red fox, gray fox, and raccoon. The month in which a hunt was conducted also influenced observations for these same species (Tables 5 & 6, Figure 6).

Rabbits and Squirrels

Cottontail rabbits and the 3 harvestable species of squirrel (eastern fox, gray, and red) were observed with regularity during both sampling periods. Little variation in observation rates for these species occurred between sampling periods. Gray squirrels were the most commonly observed species while red squirrels were encountered the least (Tables 1 & 2, Figure 7).

Cottontail rabbit observations were common statewide. Gray squirrels were extremely numerous, with the lowest number of observations recorded in the Appalachian Plateau Province during both sampling periods. Eastern fox squirrel observations were highest in the Appalachian Plateau and Ridge and Valley Provinces. Red squirrels were detected at

low levels in the Appalachian Plateau, Piedmont, and Ridge and Valley Provinces (Tables 1 & 2).

The month in which a hunt occurred did not appear to significantly influence observations for rabbits and squirrels (Tables 5 & 6).

White-tailed Deer

Bowhunters who completed survey forms in 2002-03 observed 5,250 whitetail bucks, 17,520 whitetail does, 8,730 whitetail fawns, and 3,934 whitetails of unknown sex or age (35,434 total) in Maryland during approximately 32,935 hours of hunting. Bowhunters observed a mean of 15.94 whitetail bucks, 53.20 whitetail does, 26.51 whitetail fawns, and 11.94 unknown whitetails per 100 hours statewide. The average bowhunter who participated in the survey spent a total of 78.1 hours bowhunting in 2002-03 with an average hunt length of 4.1 hours (Table 1).

Bowhunters in 2003-04 observed 3,351 whitetail bucks, 9,343 whitetail does, 4,691 whitetail fawns, and 2,335 unknown whitetails (19,720 total) statewide during approximately 21,317 hours of archery hunting. Bowhunters observed similar numbers of bucks per 100 hours in 2003-04 (15.72) as they did in 2002-03 (15.94). On average, bowhunters reported fewer adult does per 100 hours (43.83) in 2003-04 than in 2002-03 (53.20). The number of whitetail fawns observed per 100 hours during 2003-04 (22.01) was similar to the number observed in 2002-03 (26.51). The number of unknown whitetails observed by bowhunters (10.95) in 2003-04 was also similar to 2002-03 results (11.94). For 2003-04, the average bowhunter who participated in the survey spent a total of 70.8 hours bowhunting with an average hunt length of 4.1 hours (Table 2).

Geographic Province Results

Provincially, in 2002-03, bowhunters observed from a high mean of 19.05 whitetail bucks per 100 hours in the Piedmont Province to a low mean of 9.84 bucks per 100 hours in the Appalachian Plateau Province. Bowhunters reported the most whitetail does per 100 hours (72.78) in the Ridge and Valley Province and the fewest whitetail does per 100 hours (31.37) in the Western Coastal Province (Table 1). As expected, fawn observations tracked doe observations and ranged from a high mean of 29.67 in the Ridge and Valley Province to a low mean of 14.04 in the Western Coastal Province. The number of unknown whitetails observed per 100 hours ranged from a high mean of 17.42 in the Appalachian Plateau Province to a low mean of 6.46 in the Western Coastal Province

(Table 1). Bowhunters in the Western Coastal Province spent the most time bowhunting (62.8 hours/hunter) whereas bowhunters in the Appalachian Plateau Province spent the least amount of time bowhunting (44.1 hours/hunter). Average hunt length ranged from 3.9 hours/hunt in the Piedmont and Appalachian Plateau Provinces to 4.4 hours/hunt in the Eastern Coastal Province.

Provincially, the number of adult whitetail bucks observed per 100 hours remained similar between 2002-03 and 2003-04 (Table 2). Bowhunters in 2003-04 observed a high mean of 18.22 adult bucks per 100 hours in the Piedmont Province and a low mean of 9.73 per 100 hours in the Appalachian Plateau Province (Table 2). The number of adult whitetail does observed provincially per 100 hours decreased or remained similar from 2002-03 to 2003-04. Bowhunters in 2003-04 observed a high mean of 59.20 adult does per 100 hours in the Piedmont Province and a low mean of 23.90 adult does per 100 hours in the Eastern Coastal Province (Table 2). Whitetail fawns observed in 2003-04 varied in relation to 2002-03 depending on province and ranged from a mean of 36.98 per 100 hours in the Appalachian Plateau Province to a mean of 14.23 per 100 hours in the Eastern Coastal Province (Table 2). The number of unknown whitetails observed per 100 hours during 2003-04 was similar to 2002-03 and ranged from a mean of 16.09 in the Ridge and Valley Province to a mean of 6.06 in the Western Coastal Province (Table 2).

In 2003-04, bowhunters in the Piedmont Province spent the most time bowhunting (60.7 hours/hunter) whereas bowhunters in the Appalachian Plateau Province again spent the least amount of time bowhunting (40.0 hours/hunter). Less total time spent bowhunting in the Appalachian Plateau Province most likely can be attributed to weather patterns that typically bring winter conditions to that part of the state earlier than other parts of the state. Mean hunt length ranged from 3.9 hours/hunt in the Piedmont and Appalachian Plateau Provinces to 4.6 hours/hunt in the Eastern Coastal Province (Table 2).

Lures and Cover Scents

Bowhunters observed similar numbers of whitetail bucks and does in 2002-03 regardless of whether they were using lures or cover scents. Bowhunters observed a mean of 15.63 bucks per 100 hours when they did not use lures and a mean of 16.66 bucks per 100 hours when they did use lures (Table 3). Interestingly, bowhunters observed a mean of 57.62 does per 100 hours when they did not employ lures

compared to a mean of 42.98 does per 100 hours when they did employ lures.

The trend in the number of deer observed was similar for the use of cover scents (Table 3). Bowhunters reported a mean of 15.39 bucks per 100 hours when they did not use cover scents vs. a mean of 16.64 bucks per 100 hours when they employed cover scents. However, unlike the use of lures, the number of does observed per 100 hours did not differ significantly between the use and nonuse of cover scents (scent used: 52.60; scent not used: 53.67).

Bowhunters again in 2003-04 observed similar numbers of whitetail bucks and does regardless of whether they were using lures or cover scents. Bowhunters observed a mean of 15.01 bucks per 100 hours when they did not use lures and a mean of 17.61 bucks per 100 hours when they did use lures (Table 4). Bowhunters observed a mean of 44.11 does per 100 hours when they did not employ lures compared to a mean of 43.08 does per 100 hours when they did employ lures.

The trend in the number of deer observed was similar for the use of cover scents in 2003-04 (Table 4). Bowhunters reported a mean of 15.68 bucks per 100 hours when they did not use cover scents vs. a mean of 15.77 bucks per 100 hours when they employed cover scents. The number of does observed per 100 hours was also similar for use and non-use of cover scents (scent used: 47.08; scent not used: 41.16).

Elevated Stand Use

Bowhunters in 2002-03 on average observed more bucks per 100 hours when hunting from an elevated stand (16.81) then when hunting from the ground (10.56, Table 3). However, bowhunters observed similar numbers of does per 100 hours when hunting from an elevated stand vs. hunting from the ground (elevated stand: 51.53, ground: 63.46). Bowhunters spent an average of 20.7 hours/hunter bowhunting from the ground whereas bowhunters hunting from elevated stands spent an average of 69.1 hours/hunter hunting in 2002-03 (Table 3).

Similar to the previous year, bowhunters on average observed more bucks per 100 hours when hunting from an elevated stand (16.59) then when hunting from the ground (11.17) in 2003-04 (Table 4). However, bowhunters again observed nearly the same numbers of does per 100 hours when hunting from an elevated stand vs. hunting from the ground (elevated stand: 43.80, ground: 43.98). Bowhunters spent an

average of 23.7 hours/hunter bowhunting from the ground whereas bowhunters hunting from elevated stands spent an average of 63.2 hours/hunter hunting in 2003-04 (Table 4).

Monthly Results

Bowhunters observed an average of 15.93, 18.99, and 15.60 whitetail bucks per 100 hours for the periods 9/15 – 10/14, 10/15 – 11/14, and 11/15 – 12/14, respectively (Table 5). Expectedly, bowhunters observed fewer whitetail bucks per 100 hours for the period 12/15 – 1/31 (8.38). Bowhunters observed similar numbers of whitetail does per 100 hours for all periods, and ranged from a low mean of 46.62 does per 100 hours during 10/15 – 11/14 to a high mean of 66.15 does per 100 hours for the period 12/15 – 1/31 (Table 5).

Monthly observation trends for 2003-04 were similar to 2002-03 trends. Bowhunters observed an average of 15.84, 19.25, and 14.63 whitetail bucks per 100 hours for the periods 9/15 – 10/14, 10/15 – 11/14, and 11/15 – 12/14, respectively (Table 6). Like the year before, bowhunters observed fewer whitetail bucks per 100 hours for the period 12/15 – 1/31 (8.59). In addition, bowhunters again observed similar numbers of whitetail does per 100 hours for all periods, and ranged from a low mean of 38.89 does per 100 hours during 11/15 – 12/14 to a high mean of 57.71 does per 100 hours for the period 12/15 – 1/31 (Table 6).

Deer Management Region Results

Bowhunters hunting in Deer Management Region A in 2002-03 observed a mean of 9.99 whitetail bucks per 100 hours whereas bowhunters hunting in Region B reported a mean of 16.92 bucks per 100 hours (Table 7). Bowhunters observed similar numbers of does per 100 hours between the regions (Region A: 57.40; Region B: 52.52). Bowhunters also observed a mean of 22.99 whitetail fawns and 15.69 unknown whitetails per 100 hours while hunting in Region A and a mean of 27.09 whitetail fawns and 11.33 unknown whitetails per 100 hours while hunting in Region B during 2002-03 (Table 7). Bowhunters in Region A spent an average of 44.7 hours/hunter bowhunting in 2002-03 whereas bowhunters in Region B bowhunted an average of 77.9 hours/hunter in 2002-03 (Table 7).

The number of adult whitetail bucks observed per 100 hours in Deer Management Regions A and B were similar between 2002-03 and 2003-04 (Table 7). Bowhunters observed a mean of 8.14 whitetail bucks per 100 hours in Region A during 2003-04 compared

to a mean of 9.99 per 100 hours in 2002-03. In Region B, bowhunters observed a mean of 16.77 whitetail bucks per 100 hours in 2003-04 compared to a mean of 16.92 in 2002-03. Bowhunters observed a mean of 42.06 whitetail does per 100 hours in Region A during 2003-04 compared to a mean of 57.40 per 100 hours during 2002-03 (Table 7). In Region B, bowhunters observed a mean of 44.12 adult whitetail does per 100 hours during 2003-04 compared to a mean of 52.52 per 100 hours in 2002-03. The number of whitetail fawns observed in Regions A and B were also similar between 2002-03 and 2003-04. Bowhunters observed a mean of 28.04 whitetail fawns per 100 hours in Region A during 2003-04 compared to a mean of 22.99 fawns per 100 hours in 2002-03. In Region B, bowhunters observed a mean of 21.18 fawns per 100 hours during 2003-04 compared to a mean of 27.09 fawns per 100 hours in 2002-03 (Table 7). Bowhunters also observed a mean of 10.16 unknown whitetails per 100 hours in Region A and a mean of 11.05 unknown whitetails per 100 hours in Region B during 2003-04. Bowhunters in Region A spent an average of 50.4 hours/hunter bowhunting in 2003-04 whereas bowhunters in Region B bowhunted an average of 69.0 hours/hunter in 2003-04 (Table 7).

Public and Private Land Results

Bowhunters typically observed more deer per 100 hours on private land than on public land during 2002-03 (Table 8). In Region A, bowhunters observed similar numbers of bucks per 100 hours on private (11.93) and public lands (7.77; Table 8). Bowhunters in Region B observed more bucks per 100 hours on private lands (18.57) than on public lands (9.30). Bowhunters in Region A observed an average of 70.02 does per 100 hours on private land compared to 42.90 does per 100 hours on public land (Table 8). In Region B, bowhunters observed a mean of 55.92 does per 100 hours on private lands compared to 36.82 does per 100 hours on public lands (Table 8).

Mean hunt length ranged from 3.5 hours on private land in Region A to 5.3 hours on public land in Region A. Average hunt lengths were typically about 1.5 hours longer on public land than on private land (Table 8).

Like 2002-03, bowhunters in 2003-04 typically observed more deer per 100 hours on private land than on public land (Table 8). In Region A, bowhunters in 2003-04 observed similar numbers of bucks per 100 hours on private (8.59) and public lands (7.47; Table 8). Bowhunters in Region B observed more bucks per 100 hours on private lands (18.49) than on public lands (9.69). Bowhunters in Region A observed an

average of 46.45 does per 100 hours on private land compared to 35.50 does per 100 hours on public land (Table 8). In Region B, bowhunters observed a mean of 47.42 does per 100 hours on private lands compared to 30.47 does per 100 hours on public lands.

Similar to 2002-03, bowhunters in 2003-04 spent more time hunting on public land than private land (Table 8). The average hunt length was similar between regions, but average hunt lengths were about 1.2 hours longer on public land than private land (Table 8).

Doe:Buck and Fawn:Doe Ratios

Bowhunters observed approximately 3.34 adult does for every 1 adult buck statewide in 2002-03 (Table 9). Provincially, bowhunters in the Appalachian Plateau Province observed the most adult does per adult buck (5.51:1) whereas bowhunters in the Eastern Coastal Province observed the least adult does per adult buck at 2.12:1 (Table 9). Adult doe:adult buck ratios ranged from a high of 6.24:1 on Appalachian Plateau private land to a low of 2.12:1 on Eastern Coastal private land (Table 10). Public land ratios ranged from a high of 5.70 adult does per 1 adult buck in the Ridge and Valley Province to a low of 3.24 adult does per 1 adult buck in the Eastern Coastal Province (Table 10).

Bowhunters observed approximately 0.50 fawns for every 1 adult doe statewide. Fawn:adult doe ratios were similar provincially and on private and public lands (Tables 9 & 10). Bowhunters observed a high of 0.75 fawns per 1 adult doe on private lands in the Eastern Coastal Province and a low of 0.28 fawns per 1 adult doe on public lands in the Western Coastal Province (Table 10).

The ratio of adult does to adult bucks decreased from an estimated 3.34:1 in 2002-03 to 2.79:1 statewide in 2003-04 (Table 9). Provincially, Appalachian Plateau bowhunters observed the highest ratio overall at 4.31 adult does per 1 adult buck (Table 9). Bowhunters in the Eastern Coastal Province reported the lowest ratio overall at 1.66:1. Public lands typically had higher adult doe:adult buck ratios than private lands and ranged from 6.86:1 in the Appalachian Plateau Province to 2.64:1 in the Ridge and Valley Province (Table 10). Private land adult doe:adult buck ratios ranged from 3.92:1 in the Appalachian Plateau Province to 1.63:1 in the Eastern Coastal Province (Table 10).

Fawn to adult doe ratios in 2003-04 were similar to ratios in 2002-03 and averaged 0.50 statewide.

Bowhunters observed a high ratio of 0.99 fawns per 1 adult doe on Appalachian Plateau public land to a low ratio of 0.18 fawns per 1 adult doe on Eastern Coastal public land (Table 10).

Sika Deer

Bowhunters who completed surveys observed 146 sika deer in Dorchester County and 2 sika deer in Wicomico County in 2002-03. Sika stags in Dorchester County were observed at a rate of 2.76 per 100 hours of bowhunting, sika hinds at a rate of 4.11 per 100 hours, sika calves at a rate of 1.35 per 100 hours, and unknown sika deer at a rate of 1.62 per 100 hours (Table 11). The observed adult hind:adult stag ratio was 1.49:1, while the calf:adult hind ratio was 0.33:1. Bowhunters in Dorchester County reported the most stags per 100 hours (5.0) from October 15 – November 14 and the most hinds per 100 hours (5.9) from December 15 – January 31 in 2002-03. Like white-tailed deer, lures and cover scents did not appear to affect observation rates of sika deer in Dorchester County. It is important to note that small sample sizes and variable data restrict the use of the sika deer data and specifically precluded the analysis of the elevated stand data. Likewise, given the species' localized nature and the disproportionate number of sika deer hunters on public land vs. private land, it was impossible to analyze the land data further to develop reliable trends.

Bowhunters reported 334 sika deer in 2003-04 from Dorchester County and 1 sika deer from each of Somerset, Wicomico, and Worcester Counties. Bowhunters observed sika stags in Dorchester County at a rate of 4.05 per 100 hours, sika hinds at a rate of 11.30 per 100 hours, sika calves at a rate of 4.24 per 100 hours, and unknown sika deer at a rate of 0.92 per 100 hours of hunt time (Table 11). There were 2.79 adult hinds reported for every 1 adult stag in 2003-04, and the calf to adult hind ratio of 0.38:1 was similar to 2002-03. For 2003-04, bowhunters in Dorchester County reported the highest observation rate of sika stags per 100 hours (4.8) during the period September 15 – October 14 and the highest rate for hinds per 100 hours (15.5) from December 15 – January 31. Similar to 2002-03, lures and cover scents did not appear to affect observation rates for sika deer. Small sample sizes and variable data again precluded further analyses of the data to develop reliable trends. Modifications to the survey form for the 2005-06 hunting season may help provide additional useable data for sika deer.

Upland Game Birds

Although this survey was not specifically designed to obtain information on upland game birds, some useful data relative to wild turkey, ruffed grouse, and bobwhite quail was gathered and is briefly summarized here.

Bowhunters observed 5,005 wild turkeys in the 2002-03 hunting season and 1,894 in the 2003-04 hunting seasons. A statewide average of 15.20 and 8.88 turkeys were observed per 100 hours in 2002-03 and 2003-04, respectively (Tables 1 & 2). Fewer sightings were expected in the 2003-04 season as exceptionally low reproductive success in the summer of 2003 resulted in lower than average fall populations. The data confirm that turkey populations are strong in most regions of the state with the exception of the Piedmont Province where densities are much lower.

Ruffed grouse are only found in the 4 westernmost counties of the state. Based on the bowhunter survey data, an increasing trend in grouse densities occurs from east to west (Tables 1 & 2). Bowhunters observed the most grouse in the Appalachian Plateau in 2002-03 and 2003-04 (2.63 and 1.58 per 100 hours, respectively), with declining numbers in the Ridge and Valley Province.

Although the data are limited, bobwhite quail appear to be at their highest densities in the Eastern Shore Coastal Province (Tables 1 & 2).

Black Bear

Maryland bowhunters who completed and returned the 2002-03 and 2003-04 Bowhunter Survey reported observations of black bears in Garrett, Allegany, Washington, and Frederick counties. Black bears have been observed by bowhunters across all 4 counties of Maryland's current black bear range, encompassing the Appalachian Plateau and Ridge and Valley Physiographic Provinces.

During the 2002-03 hunting year, survey respondents reported a total of 151 black bear observations statewide, 131 in the Appalachian Plateau Province and 20 in the Ridge and Valley Province. Bowhunters observed 1.57 black bears per 100 hunting hours across the black bear's range. When looking at the physiographic province level, bowhunters observed 5.31 black bears per 100 hours in the Appalachian Plateau Province and 0.28 black bears per 100 hours in the Ridge and Valley Province (Table 1).

During the 2003-04 hunting year, survey respondents reported a total of 114 black bear observations statewide, 95 in the Appalachian Plateau Province and 18 in the Ridge and Valley Province. Bowhunters observed 2.44 black bears per 100 hunting hours across the black bear's range. During the 2003-04 hunting year, bowhunters observed 8.80 black bears per 100 hours in the Appalachian Plateau Province and 0.50 black bears per 100 hours in the Ridge and Valley Province (Table 2).

Other species

Bowhunters reported a myriad of other species while bowhunting. Geese, mourning doves and ducks were reported the most frequently in both years (Table 12).

Table 1. Observations of select species per 100 hours (SE in parentheses) by archery hunters statewide and provincially during the 2002-03 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted					
	Statewide	Appalachian Plateau	Ridge & Valley	Piedmont	Western Coastal	Eastern Coastal
<i>Furbearers</i>						
Beaver	0.12 (0.03)	0.08 (0.06)	0.08 (0.04)	0.12 (0.06)	0.19 (0.08)	0.10 (0.07)
Bobcat	0.06 (0.02)	0.24 (0.13)	0.17 (0.09)	0.00 (0.00)	0.02 (0.02)	0.03 (0.02)
Coyote	0.16 (0.04)	0.77 (0.30)	0.28 (0.09)	0.08 (0.04)	0.06 (0.03)	0.01 (0.01)
Fisher	0.05 (0.03)	0.32 (0.16)	0.00 (0.00)	0.09 (0.09)	0.00 (0.00)	0.00 (0.00)
Gray Fox	0.52 (0.08)	0.73 (0.27)	0.75 (0.26)	0.35 (0.12)	0.85 (0.18)	0.19 (0.06)
Mink	0.05 (0.01)	0.12 (0.09)	0.06 (0.03)	0.07 (0.03)	0.02 (0.02)	0.00 (0.00)
Muskrat	0.05 (0.02)	0.00 (0.00)	0.07 (0.05)	0.02 (0.01)	0.07 (0.07)	0.09 (0.04)
Nutria	0.05 (0.02)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)	0.25 (0.10)
Opossum	0.10 (0.02)	0.08 (0.06)	0.15 (0.05)	0.07 (0.02)	0.15 (0.06)	0.07 (0.03)
Otter	0.50 (0.43)	0.04 (0.04)	0.08 (0.06)	0.06 (0.04)	2.78 (2.61)	0.01 (0.02)
Raccoon	1.19 (0.11)	0.77 (0.30)	1.13 (0.22)	1.36 (0.22)	0.93 (0.19)	1.35 (0.26)
Red Fox	5.28 (0.39)	0.32 (0.18)	3.14 (0.43)	8.18 (0.67)	2.33 (0.39)	6.93 (1.21)
Striped Skunk	0.16 (0.03)	0.24 (0.10)	0.17 (0.07)	0.16 (0.06)	0.11 (0.04)	0.15 (0.05)
Weasel	0.01 (0.01)	0.12 (0.09)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)
<i>Forest & Upland Game</i>						
Black Bear	0.46 (0.11)	5.31 (1.13)	0.28 (0.12)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Bobwhite Quail	0.91 (0.23)	0.00 (0.00)	0.24 (0.22)	0.04 (0.02)	0.20 (0.14)	3.99 (1.01)
Cottontail Rabbit	2.43 (0.29)	2.51 (1.04)	2.96 (0.58)	2.48 (0.61)	1.59 (0.50)	2.43 (0.56)
Eastern Fox Squirrel	1.89 (0.42)	1.66 (0.47)	5.58 (1.04)	1.25 (0.88)	0.26 (0.23)	0.45 (0.32)
Gray Squirrel	95.77 (3.44)	28.92 (4.70)	89.79 (6.70)	116.95 (6.57)	102.56 (7.32)	86.05 (5.98)
Red Squirrel	0.04 (0.02)	0.28 (0.25)	0.04 (0.02)	0.02 (0.02)	0.00 (0.00)	0.00 (0.00)
Ruffed Grouse	0.33 (0.07)	2.63 (0.61)	0.61 (0.18)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Wild Turkey	15.20 (1.52)	35.97 (7.49)	27.31 (4.66)	3.11 (0.82)	14.93 (2.28)	14.96 (3.38)
<i>White-tailed Deer</i>						
Buck	15.94 (0.95)	9.84 (1.35)	13.93 (0.99)	19.05 (1.34)	11.28 (1.10)	18.91 (3.60)
Doe	53.20 (2.70)	54.27 (11.53)	72.78 (7.26)	58.87 (3.70)	31.37 (2.52)	40.13 (5.29)
Fawn	26.51 (1.64)	24.79 (3.17)	29.67 (3.09)	29.52 (2.45)	14.04 (2.07)	28.80 (5.31)
Unknown	11.94 (1.05)	17.42 (4.56)	15.79 (2.07)	13.74 (2.04)	6.46 (1.95)	7.27 (1.28)
<i>No. Of Hunters Who Reported At Least One Hunt In The State or Province</i>						
	422	56	133	190	86	119
<i>No. Of Hunts Logged</i>						
	8,118	628	1,715	2,878	1,363	1,533
<i>Total Hrs. Hunted</i>						
	32,935	2,469	7,163	11,161	5,400	6,736
<i>Avg. Total Hrs. Per Hunter</i>						
	78.1	44.1	53.9	58.7	62.8	56.6
<i>Avg. No. Of Hrs. Per Hunt</i>						
	4.1	3.9	4.2	3.9	4.0	4.4
<i>Total No. Of Deer Observed</i>						
	35,434	2,625	9,467	13,525	3,410	6,407

Table 2. Observations of select species per 100 hours (SE in parentheses) by archery hunters statewide and provincially during the 2003-04 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted					
	Statewide	Appalachian Plateau	Ridge & Valley	Piedmont	Western Coastal	Eastern Coastal
<i>Furbearers</i>						
Beaver	0.15 (0.06)	0.00 (0.00)	0.08 (0.08)	0.09 (0.06)	0.03 (0.03)	0.39 (0.23)
Bobcat	0.04 (0.01)	0.28 (0.21)	0.06 (0.04)	0.02 (0.02)	0.00 (0.00)	0.02 (0.02)
Coyote	0.17 (0.10)	0.74 (0.27)	0.64 (0.54)	0.05 (0.04)	0.03 (0.03)	0.02 (0.02)
Fisher	0.01 (0.01)	0.19 (0.13)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Gray Fox	1.21 (0.61)	0.83 (0.36)	1.73 (1.38)	0.81 (0.55)	0.43 (0.17)	2.14 (1.82)
Mink	0.02 (0.01)	0.00 (0.00)	0.03 (0.03)	0.02 (0.02)	0.03 (0.03)	0.00 (0.00)
Muskrat	0.03 (0.02)	0.00 (0.00)	0.03 (0.03)	0.06 (0.06)	0.00 (0.00)	0.00 (0.00)
Nutria	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.06 (0.05)
Opossum	0.15 (0.03)	0.09 (0.09)	0.25 (0.11)	0.15 (0.04)	0.15 (0.08)	0.08 (0.04)
Otter	0.06 (0.04)	0.00 (0.00)	0.00 (0.00)	0.09 (0.08)	0.00 (0.00)	0.10 (0.06)
Raccoon	1.28 (0.12)	1.20 (0.67)	1.22 (0.30)	1.47 (0.21)	1.19 (0.27)	1.06 (0.22)
Red Fox	4.84 (0.40)	0.09 (0.09)	2.92 (0.77)	7.56 (0.79)	2.33 (0.44)	4.30 (0.56)
Striped Skunk	0.07 (0.03)	0.00 (0.00)	0.17 (0.10)	0.02 (0.02)	0.12 (0.12)	0.04 (0.03)
Weasel	0.01 (0.01)	0.09 (0.10)	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)
<i>Forest & Upland Game</i>						
Black Bear	0.53 (0.17)	8.80 (2.54)	0.50 (0.17)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Bobwhite Quail	0.34 (0.17)	0.00 (0.00)	0.28 (0.26)	0.00 (0.00)	0.00 (0.00)	1.28 (0.72)
Cottontail Rabbit	1.86 (0.53)	1.20 (0.46)	4.70 (2.65)	0.88 (0.18)	1.74 (1.21)	1.69 (0.62)
Eastern Fox Squirrel	2.23 (0.93)	0.83 (0.36)	6.37 (1.67)	2.44 (2.15)	0.77 (0.46)	0.14 (0.08)
Gray Squirrel	93.12 (3.91)	21.59 (5.17)	85.89 (7.01)	108.38 (6.55)	109.67 (10.74)	76.94 (7.63)
Red Squirrel	0.05 (0.03)	0.46 (0.39)	0.14 (0.12)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Ruffed Grouse	0.22 (0.06)	1.58 (0.52)	0.81 (0.28)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Wild Turkey	8.88 (1.07)	18.16 (6.42)	17.56 (3.66)	1.71 (0.54)	8.48 (2.25)	13.07 (2.86)
<i>White-tailed Deer</i>						
Buck	15.72 (1.08)	9.73 (2.14)	13.47 (1.78)	18.22 (1.46)	15.76 (1.76)	14.40 (3.34)
Doe	43.83 (2.59)	41.98 (6.32)	47.59 (4.61)	59.20 (4.89)	30.79 (3.78)	23.90 (3.80)
Fawn	22.01 (1.66)	36.98 (6.80)	24.16 (3.15)	26.48 (2.99)	14.85 (2.77)	14.23 (2.74)
Unknown	10.95 (1.19)	11.31 (3.28)	16.09 (3.14)	13.41 (2.33)	6.06 (1.31)	6.10 (1.27)
<i>No. Of Hunters Who Reported At Least One Hunt In The State or Province</i>	301	27	79	139	58	100
<i>No. Of Hunts Logged</i>	5,215	274	882	2,172	815	1,062
<i>Total Hrs. Hunted</i>	21,317	1,079	3,593	8,434	3,267	4,904
<i>Avg. Total Hrs. Per Hunter</i>	70.8	40.0	45.5	60.7	56.3	49.0
<i>Avg. No. Of Hrs. Per Hunt</i>	4.1	3.9	4.1	3.9	4.0	4.6
<i>Total No. Of Deer Observed</i>	19,720	1,079	3,640	9,894	2,204	2,875

Table 3. Observations of select species per 100 hours (SE in parentheses) by archery hunters who used or did not use lures, cover scents, or elevated stands during the 2002-03 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted					
	Lures		Cover Scents		Elevated Stand	
	Used	Not Used	Used	Not Used	Used	Not Used
<i>Furbearers</i>						
Beaver	0.11 (0.06)	0.12 (0.03)	0.12 (0.04)	0.11 (0.04)	0.10 (0.03)	0.22 (0.10)
Bobcat	0.05 (0.03)	0.07 (0.03)	0.04 (0.02)	0.08 (0.04)	0.03 (0.01)	0.28 (0.14)
Coyote	0.15 (0.07)	0.16 (0.04)	0.23 (0.07)	0.10 (0.03)	0.15 (0.04)	0.20 (0.07)
Fisher	0.10 (0.10)	0.03 (0.02)	0.07 (0.07)	0.04 (0.02)	0.06 (0.04)	0.04 (0.03)
Gray Fox	0.56 (0.13)	0.50 (0.10)	0.72 (0.16)	0.35 (0.07)	0.54 (0.09)	0.39 (0.10)
Mink	0.07 (0.03)	0.04 (0.01)	0.06 (0.03)	0.04 (0.01)	0.06 (0.02)	0.00 (0.00)
Muskrat	0.04 (0.02)	0.06 (0.02)	0.04 (0.02)	0.06 (0.03)	0.04 (0.02)	0.11 (0.08)
Nutria	0.00 (0.00)	0.08 (0.03)	0.03 (0.02)	0.08 (0.03)	0.05 (0.02)	0.07 (0.05)
Opossum	0.08 (0.03)	0.11 (0.02)	0.13 (0.03)	0.08 (0.02)	0.10 (0.02)	0.11 (0.05)
Otter	0.12 (0.08)	0.67 (0.58)	0.14 (0.08)	0.79 (0.73)	0.55 (0.50)	0.17 (0.10)
Raccoon	0.83 (0.13)	1.35 (0.15)	1.29 (0.17)	1.12 (0.15)	1.28 (0.13)	0.63 (0.20)
Red Fox	5.25 (0.57)	5.29 (0.44)	5.50 (0.57)	5.10 (0.51)	5.70 (0.41)	2.70 (0.43)
Striped Skunk	0.15 (0.05)	0.16 (0.03)	0.15 (0.05)	0.16 (0.03)	0.15 (0.03)	0.20 (0.07)
Weasel	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.00 (0.00)
<i>Forest & Upland Game</i>						
Black Bear	0.41 (0.25)	0.48 (0.10)	0.36 (0.12)	0.53 (0.13)	0.40 (0.11)	0.80 (0.32)
Bobwhite Quail	0.76 (0.30)	0.98 (0.29)	0.70 (0.27)	1.09 (0.34)	1.05 (0.27)	0.09 (0.07)
Cottontail Rabbit	1.77 (0.29)	2.72 (0.38)	1.88 (0.25)	2.87 (0.47)	2.24 (0.30)	3.61 (0.79)
Eastern Fox Squirrel	0.94 (0.27)	2.31 (0.53)	1.48 (0.41)	2.22 (0.58)	1.64 (0.43)	3.43 (0.87)
Gray Squirrel	102.10 (5.93)	93.03 (3.55)	105.20 (5.21)	88.27 (3.99)	100.54 (3.66)	66.40 (6.19)
Red Squirrel	0.04 (0.02)	0.03 (0.03)	0.05 (0.04)	0.02 (0.01)	0.04 (0.02)	0.04 (0.03)
Ruffed Grouse	0.22 (0.08)	0.38 (0.08)	0.24 (0.06)	0.40 (0.1)	0.21 (0.05)	1.06 (0.29)
Wild Turkey	11.37 (1.62)	16.86 (1.95)	13.83 (1.66)	16.29 (2.30)	14.06 (1.34)	22.21 (5.82)
<i>White-tailed Deer</i>						
Buck	16.66 (1.20)	15.63 (1.17)	16.64 (1.10)	15.39 (1.43)	16.81 (1.05)	10.56 (1.29)
Doe	42.98 (2.97)	57.62 (3.35)	52.60 (3.59)	53.67 (3.68)	51.53 (2.67)	63.46 (7.87)
Fawn	19.53 (1.90)	29.53 (1.96)	24.26 (1.83)	28.29 (2.43)	26.87 (1.77)	24.30 (2.46)
Unknown	10.22 (1.37)	12.69 (1.20)	12.20 (1.59)	11.74 (1.28)	10.72 (0.99)	19.52 (3.02)
<i>No. Of Hunters Who Reported At Least One Hunt</i>	264	403	278	338	410	222
<i>No. Of Hunts Logged</i>	2,297	5,821	3,520	4,598	7,026	1,092
<i>Total Hrs. Hunted</i>	9,951	22,984	14,594	18,341	28,334	4,601
<i>Avg. Total Hrs. Per Hunter</i>	37.7	57.0	52.5	54.3	69.1	20.7
<i>Avg. No. Of Hrs. Per Hunt</i>	4.3	4.0	4.2	4.0	4.0	4.2
<i>Total No. Of Deer Observed</i>	8,895	26,539	15,427	20,007	30,012	5,422

Table 4. Observations of select species per 100 hours (SE in parentheses) by archery hunters who used or did not use lures, cover scents, or elevated stands during the 2003-04 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted					
	Lures		Cover Scents		Elevated Stand	
	Used	Not Used	Used	Not Used	Used	Not Used
<i>Furbearers</i>						
Beaver	0.24 (0.11)	0.11 (0.05)	0.23 (0.12)	0.08 (0.05)	0.15 (0.07)	0.15 (0.10)
Bobcat	0.02 (0.02)	0.05 (0.02)	0.05 (0.02)	0.03 (0.01)	0.03 (0.01)	0.09 (0.07)
Coyote	0.05 (0.04)	0.22 (0.13)	0.04 (0.02)	0.28 (0.17)	0.07 (0.03)	0.70 (0.57)
Fisher	0.02 (0.02)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.03 (0.03)
Gray Fox	1.56 (1.37)	1.08 (0.62)	0.64 (0.25)	1.68 (0.92)	1.43 (0.73)	0.06 (0.04)
Mink	0.00 (0.00)	0.03 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.03 (0.03)
Muskrat	0.00 (0.00)	0.04 (0.03)	0.00 (0.00)	0.05 (0.04)	0.03 (0.03)	0.03 (0.03)
Nutria	0.00 (0.00)	0.02 (0.01)	0.00 (0.00)	0.03 (0.02)	0.02 (0.01)	0.00 (0.00)
Opossum	0.09 (0.04)	0.17 (0.04)	0.15 (0.05)	0.15 (0.04)	0.13 (0.03)	0.23 (0.09)
Otter	0.03 (0.02)	0.07 (0.05)	0.08 (0.07)	0.04 (0.02)	0.07 (0.04)	0.00 (0.00)
Raccoon	1.29 (0.20)	1.27 (0.15)	1.40 (0.19)	1.18 (0.17)	1.43 (0.14)	0.47 (0.15)
Red Fox	4.47 (0.52)	4.97 (0.48)	5.60 (0.64)	4.21 (0.47)	5.15 (0.45)	3.21 (0.58)
Striped Skunk	0.05 (0.03)	0.07 (0.03)	0.05 (0.03)	0.08 (0.04)	0.07 (0.03)	0.06 (0.06)
Weasel	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.02 (0.01)	0.01 (0.01)	0.03 (0.03)
<i>Forest & Upland Game</i>						
Black Bear	0.41 (0.18)	0.58 (0.21)	0.27 (0.11)	0.75 (0.28)	0.49 (0.16)	0.79 (0.36)
Bobwhite Quail	0.00 (0.00)	0.47 (0.24)	0.08 (0.07)	0.55 (0.31)	0.29 (0.16)	0.64 (0.44)
Cottontail Rabbit	1.18 (0.44)	2.11 (0.67)	1.31 (0.42)	2.30 (0.88)	1.17 (0.23)	5.42 (2.87)
Eastern Fox Squirrel	1.66 (0.68)	2.45 (1.14)	2.86 (1.92)	1.72 (0.52)	2.15 (1.08)	2.65 (0.96)
Gray Squirrel	100.91 (6.27)	90.18 (4.22)	100.24 (6.01)	87.28 (4.47)	96.67 (4.3)	74.6 (6.27)
Red Squirrel	0.00 (0.00)	0.06 (0.04)	0.00 (0.00)	0.09 (0.05)	0.03 (0.02)	0.15 (0.12)
Ruffed Grouse	0.05 (0.04)	0.28 (0.08)	0.16 (0.08)	0.26 (0.08)	0.14 (0.05)	0.61 (0.19)
Wild Turkey	8.81 (2.04)	8.91 (1.20)	7.24 (1.12)	10.23 (1.66)	8.44 (1.18)	11.23 (2.31)
<i>White-tailed Deer</i>						
Buck	17.61 (1.35)	15.01 (1.32)	15.77 (1.05)	15.68 (1.71)	16.59 (1.21)	11.17 (1.60)
Doe	43.08 (3.74)	44.11 (2.94)	47.08 (3.88)	41.16 (3.09)	43.80 (2.65)	43.98 (5.75)
Fawn	15.97 (1.71)	24.28 (1.96)	20.70 (2.00)	23.08 (2.19)	22.30 (1.73)	20.47 (3.38)
Unknown	10.98 (1.77)	10.94 (1.36)	12.13 (1.95)	9.99 (1.32)	10.38 (1.15)	13.97 (3.12)
<i>No. Of Hunters Who Reported At Least One Hunt</i>	176	285	184	227	283	145
<i>No. Of Hunts Logged</i>	1,304	3,911	2,312	2,903	4,354	861
<i>Total Hrs. Hunted</i>	5,836	15,481	9,600	11,717	17,888	3,429
<i>Avg. Total Hrs. Per Hunter</i>	33.2	54.3	52.2	51.6	63.2	23.7
<i>Avg. No. Of Hrs. Per Hunt</i>	4.5	4.0	4.2	4.0	4.1	4.0
<i>Total No. Of Deer Observed</i>	5,115	14,605	9,185	10,535	16,648	3,072

Table 5. Observations of select species per 100 hours (SE in parentheses) by archery hunters during 4 monthly periods of the 2002-03 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted			
	9/15 – 10/14	10/15 – 11/14	11/15 – 12/14	12/15 – 1/31
<i>Furbearers</i>				
Beaver	0.13 (0.07)	0.09 (0.04)	0.07 (0.03)	0.20 (0.09)
Bobcat	0.10 (0.04)	0.02 (0.01)	0.09 (0.04)	0.07 (0.04)
Coyote	0.21 (0.06)	0.13 (0.05)	0.16 (0.05)	0.13 (0.07)
Fisher	0.06 (0.03)	0.02 (0.02)	0.11 (0.11)	0.02 (0.02)
Gray Fox	0.55 (0.11)	0.43 (0.08)	0.69 (0.21)	0.33 (0.13)
Mink	0.05 (0.02)	0.05 (0.03)	0.05 (0.03)	0.04 (0.03)
Muskrat	0.05 (0.03)	0.04 (0.02)	0.06 (0.03)	0.07 (0.07)
Nutria	0.04 (0.03)	0.04 (0.02)	0.10 (0.06)	0.04 (0.04)
Opossum	0.13 (0.04)	0.12 (0.03)	0.07 (0.03)	0.09 (0.04)
Otter	0.15 (0.07)	0.73 (0.69)	0.47 (0.43)	0.62 (0.54)
Raccoon	2.03 (0.26)	1.11 (0.18)	0.57 (0.09)	1.09 (0.25)
Red Fox	5.01 (0.46)	4.98 (0.44)	4.45 (0.40)	8.18 (1.03)
Striped Skunk	0.25 (0.07)	0.19 (0.05)	0.07 (0.03)	0.09 (0.04)
Weasel	0.02 (0.02)	0.02 (0.01)	0.00 (0.00)	0.00 (0.00)
<i>Forest & Upland Game</i>				
Black Bear	0.86 (0.20)	0.47 (0.19)	0.30 (0.09)	0.00 (0.00)
Bobwhite Quail	0.85 (0.40)	1.27 (0.38)	0.71 (0.25)	0.56 (0.39)
Cottontail Rabbit	2.62 (0.41)	2.13 (0.28)	1.98 (0.26)	2.67 (0.61)
Eastern Fox Squirrel	1.99 (0.40)	1.88 (0.42)	1.75 (0.51)	2.04 (1.00)
Gray Squirrel	98.40 (4.60)	102.21 (4.40)	87.44 (4.36)	88.98 (5.76)
Red Squirrel	0.07 (0.07)	0.03 (0.02)	0.03 (0.02)	0.00 (0.00)
Ruffed Grouse	0.38 (0.12)	0.34 (0.09)	0.36 (0.12)	0.18 (0.10)
Wild Turkey	16.99 (2.10)	14.80 (2.21)	12.76 (1.85)	17.14 (3.42)
<i>White-tailed Deer</i>				
Buck	15.93 (1.10)	18.99 (1.53)	15.60 (0.95)	8.38 (1.22)
Doe	52.04 (2.76)	46.62 (2.88)	55.93 (4.14)	66.15 (5.90)
Fawn	31.38 (2.01)	24.97 (2.08)	23.35 (1.75)	27.65 (3.56)
Unknown	9.01 (1.18)	11.26 (1.50)	14.00 (1.67)	15.05 (2.35)
<i>No. Of Hunters Who Reported At Least One Hunt During The Time Period</i>	372	376	346	222
<i>No. Of Hunts Logged</i>	2,118	2,801	2,088	1,104
<i>Total Hrs. Hunted</i>	8,238	11,301	8,877	4,499
<i>Avg. Total Hrs. Per Hunter</i>	22.2	30.1	25.7	20.3
<i>Avg. No. Of Hrs. Per Hunt</i>	3.9	4.0	4.3	4.1
<i>Total No. Of Deer Observed</i>	8,926	11,509	9,666	5,274

Table 6. Observations of select species per 100 hours (SE in parentheses) by archery hunters during 4 monthly periods of the 2003-04 Maryland archery season.

Sex/Age Class	Number Observed Per 100 Hours Hunted			
	9/15 – 10/14	10/15 – 11/14	11/15 – 12/14	12/15 – 1/31
<i>Furbearers</i>				
Beaver	0.07 (0.05)	0.23 (0.10)	0.11 (0.09)	0.14 (0.11)
Bobcat	0.02 (0.02)	0.04 (0.02)	0.04 (0.03)	0.07 (0.05)
Coyote	0.26 (0.17)	0.19 (0.10)	0.17 (0.09)	0.00 (0.00)
Fisher	0.02 (0.02)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)
Gray Fox	1.96 (1.32)	1.31 (0.70)	0.87 (0.54)	0.28 (0.16)
Mink	0.04 (0.03)	0.00 (0.00)	0.04 (0.03)	0.00 (0.00)
Muskrat	0.07 (0.07)	0.01 (0.01)	0.00 (0.00)	0.03 (0.03)
Nutria	0.02 (0.02)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Opossum	0.19 (0.06)	0.07 (0.03)	0.18 (0.07)	0.21 (0.09)
Otter	0.06 (0.04)	0.12 (0.10)	0.00 (0.00)	0.03 (0.03)
Raccoon	1.96 (0.30)	1.38 (0.20)	0.85 (0.19)	0.59 (0.20)
Red Fox	3.41 (0.43)	4.17 (0.42)	4.33 (0.51)	10.35 (1.27)
Striped Skunk	0.13 (0.07)	0.05 (0.03)	0.00 (0.00)	0.07 (0.07)
Weasel	0.00 (0.00)	0.00 (0.00)	0.02 (0.02)	0.03 (0.03)
<i>Forest & Upland Game</i>				
Black Bear	0.86 (0.32)	0.36 (0.14)	0.59 (0.24)	0.31 (0.31)
Bobwhite Quail	0.47 (0.33)	0.24 (0.18)	0.55 (0.31)	0.00 (0.00)
Cottontail Rabbit	2.24 (0.63)	1.31 (0.35)	1.57 (0.72)	3.14 (1.99)
Eastern Fox Squirrel	1.64 (0.53)	2.40 (0.68)	2.49 (1.51)	2.52 (1.73)
Gray Squirrel	83.08 (4.67)	106.72 (5.14)	86.13 (5.11)	92.45 (6.61)
Red Squirrel	0.09 (0.08)	0.00 (0.00)	0.09 (0.07)	0.00 (0.00)
Ruffed Grouse	0.32 (0.15)	0.19 (0.06)	0.17 (0.07)	0.21 (0.13)
Wild Turkey	8.53 (1.42)	8.35 (1.31)	8.73 (1.84)	11.52 (3.80)
<i>White-tailed Deer</i>				
Buck	15.84 (1.32)	19.25 (1.74)	14.63 (1.08)	8.59 (1.22)
Doe	47.39 (3.04)	39.05 (2.70)	38.89 (2.84)	57.71 (7.67)
Fawn	30.41 (2.37)	19.85 (1.90)	18.35 (1.74)	19.87 (3.40)
Unknown	10.95 (1.36)	9.55 (1.25)	10.00 (1.37)	16.90 (4.70)
<i>No. Of Hunters Who Reported At Least One Hunt During The Time Period</i>	256	268	236	153
<i>No. Of Hunts Logged</i>	1,515	1,756	1,215	699
<i>Total Hrs. Hunted</i>	5,360	7,485	5,428	2,899
<i>Avg. Total Hrs. Per Hunter</i>	20.9	27.9	23.0	19.0
<i>Avg. No. Of Hrs. Per Hunt</i>	3.5	4.3	4.5	4.2
<i>Total No. Of Deer Observed</i>	5,606	6,565	4,444	2,988

Table 7. Observations of white-tailed deer per 100 hours (SE in parentheses) by archery hunters in Deer Management Region A and Region B during the 2002-03 and 2003-04 Maryland archery seasons.

Sex/Age Class	Number Observed Per 100 Hours Hunted			
	2002-03		2003-04	
	Region A	Region B	Region A	Region B
Buck	9.99 (1.04)	16.92 (1.09)	8.14 (1.86)	16.77 (1.19)
Doe	57.40 (7.78)	52.52 (2.83)	42.06 (4.47)	44.12 (2.88)
Fawn	22.99 (2.11)	27.09 (1.87)	28.04 (4.68)	21.18 (1.76)
Unknown	15.69 (2.83)	11.33 (1.11)	10.16 (1.93)	11.05 (1.33)
<i>No. Of Hunters Who Reported At Least One Hunt In The Region</i>	104	363	51	271
<i>No. Of Hunts Logged</i>	1,117	7,000	593	4,612
<i>Total Hrs. Hunted</i>	4,645	28,284	2,568	18,709
<i>Avg. Total Hrs. Per Hunter</i>	44.7	77.9	50.4	69.0
<i>Avg. No. Of Hrs. Per Hunt</i>	4.2	4.0	4.3	4.1
<i>Total No. Of Deer Observed</i>	4,927	30,507	2,270	17,422

Table 8. Observations of white-tailed deer per 100 hours (SE in parentheses) by archery hunters on private and public lands in Deer Management Regions A and B during the 2002-03 and 2003-04 Maryland archery seasons.

Sex/Age Class	Number Observed Per 100 Hours Hunted							
	2002-03				2003-04			
	Region A		Region B		Region A		Region B	
	Private	Public	Private	Public	Private	Public	Private	Public
Buck	11.93 (1.45)	7.77 (1.11)	18.57 (1.26)	9.30 (0.96)	8.59 (1.66)	7.47 (3.95)	18.49 (1.40)	9.69 (1.16)
Doe	70.02 (12.54)	42.90 (6.16)	55.92 (3.21)	36.82 (3.88)	46.45 (4.76)	35.50 (8.38)	47.42 (3.32)	30.47 (4.73)
Fawn	26.35 (3.17)	19.14 (2.26)	29.59 (2.14)	15.57 (2.34)	30.84 (5.36)	23.86 (8.43)	23.01 (1.97)	13.64 (2.86)
Unknown	19.98 (5.61)	10.77 (2.84)	12.17 (1.31)	7.46 (1.07)	10.67 (2.47)	9.41 (2.94)	12.45 (1.54)	5.24 (1.27)
<i>No. Of Hunters Who Reported At Least One Hunt In The Region and Land Classification</i>	68	63	333	116	34	28	246	76
<i>No. Of Hunts Logged</i>	708	409	6,004	996	385	208	3,907	705
<i>Total Hrs. Hunted</i>	2,482	2,163	23,243	5,041	1,537	1,031	15,066	3,643
<i>Avg. Total Hrs. Per Hunter</i>	36.5	34.3	69.8	43.5	45.2	36.8	61.2	47.9
<i>Avg. No. Of Hrs. Per Hunt</i>	3.5	5.3	3.9	5.1	4.0	5.0	3.9	5.2
<i>Total No. Of Deer Observed</i>	3,184	1,743	27,021	3,486	1,484	786	15,271	2,151

Table 9. Number of adult does per 1 adult buck and number of fawns per 1 adult doe observed provincially by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

Region	2002-03		2003-04	
	Adult does/Adult buck	Fawns/Adult doe	Adult does/Adult buck	Fawns/Adult doe
Appalachian Plateau	5.51	0.46	4.31	0.88
Ridge & Valley	5.22	0.41	3.53	0.51
Piedmont	3.09	0.50	3.25	0.45
Western Coastal	2.78	0.45	1.95	0.48
Eastern Coastal	2.12	0.72	1.66	0.60
<i>Statewide</i>	<i>3.34</i>	<i>0.50</i>	<i>2.79</i>	<i>0.50</i>

Table 10. Number of adult does per 1 adult buck and number of fawns per 1 adult doe observed provincially on private and public lands by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

Region	2002-03				2003-04			
	Adult does/Adult buck		Fawns/Adult doe		Adult does/Adult buck		Fawns/Adult doe	
	Private	Public	Private	Public	Private	Public	Private	Public
Appalachian Plateau	6.24	4.08	0.41	0.59	3.92	6.86	0.85	0.99
Ridge & Valley	5.10	5.70	0.42	0.36	3.89	2.64	0.50	0.53
Piedmont	3.00	3.71	0.50	0.49	3.17	3.71	0.44	0.48
Western Coastal	2.73	5.14	0.45	0.28	1.87	3.05	0.51	0.29
Eastern Coastal	2.07	3.24	0.75	0.34	1.63	4.86	0.61	0.18
<i>Statewide</i>	<i>3.20</i>	<i>4.37</i>	<i>0.51</i>	<i>0.43</i>	<i>2.69</i>	<i>3.44</i>	<i>0.50</i>	<i>0.50</i>

Table 11. Number of sika deer observed per 100 hours (SE in parentheses) by archery hunters in Dorchester County during the 2002-03 and 2003-04 Maryland archery seasons.

Sex/Age Class	Number Observed Per 100 Hours Hunted	
	2002-03	2003-04
Stag	2.76 (0.74)	4.05 (1.35)
Hind	4.11 (1.38)	11.30 (4.58)
Calf	1.35 (0.49)	4.24 (2.78)
Unknown	1.62 (0.82)	0.92 (0.44)

Table 12. Statewide observations (per 100 hunts) of miscellaneous animals reported by Maryland archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

Animal	2002-03		2003-04	
	Total Observed	Observations Per 100 Hunts	Total Observed	Observations Per 100 Hunts
Bats	3	0.04	0	0
Crows	23	0.28	280	5.37
Delmarva Fox Squirrel	233	2.87	138	2.65
Domestic Cat	9	0.11	12	0.23
Domestic Dog	20	0.25	5	0.1
Ducks	542	6.68	487	9.34
Eagles	84	1.03	55	1.05
Eastern Chipmunk	212	2.61	181	3.47
Fallow Deer	2	0.02	0	0
Flying Squirrels	3	0.04	14	0.27
Geese	9229	113.69	9821	188.32
Kingfisher	1	0.01	1	0.02
Mourning Dove	572	7.05	192	3.68
Mouse	1	0.01	2	0.04
Osprey	0	0	0	0
Other Raptors	140	1.72	103	1.98
Owls	39	0.48	34	0.65
Pheasant	15	0.18	2	0.04
Porcupine	0	0	1	0.02
Snakes	1	0.01	4	0.08
Songbirds	19	0.23	1	0.02
Swans	2	0.02	1	0.02
Turtles	8	0.1	8	0.15
Vultures	28	0.34	6	0.12
Waterbirds (herons, egrets, etc.)	12	0.15	31	0.59
Woodchuck	238	2.93	88	1.69
Woodcock/Snipe	48	0.59	24	0.46
Woodpeckers	51	0.63	17	0.33

Instructions

Please read and follow the instructions listed below when completing the form on the reverse side of this page.

1. Record the date of each individual hunt you participated in.
2. Record the number of hours you hunted each day. For the purpose of this survey each individual hunt begins when you leave your vehicle and/or enter the field. Your hunt ends when you return to your vehicle and/or leave the field.
3. Record the county of each hunt. If you hunted in more than one county during a calendar day, record each occurrence as a separate hunt.
4. Record yes or no to the question asking if you hunted on public lands (any property owned by federal, state, or local governments).
5. Respond yes or no to the questions asking if you used deer lure, cover scent, or hunted from an elevated stand.
6. Record the number of animals you observed during each hunt in the appropriate columns. Leave the columns blank if none of those animals were observed.
7. If you observed any wildlife species other than those listed on the form, please list the number and species in the last (Other Species) column.
8. Record the number of questionnaires you have completed and are returning for this hunting season in the space provided (see below).
Additional forms can be downloaded at <http://dnr.maryland.gov>, or feel free to photocopy the enclosed blank forms.
9. Fold completed forms along the dotted lines, and tape together at the locations designated on the form.
10. Please return mail this form by March 1, 2005. If you complete more than one form, mail them separately. Postage is prepaid, no additional stamps are required.

Thank you for your time, effort, and cooperation!

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2004-2005 Bowhunter Survey Form

Maryland DNR, Wildlife & Heritage Service

Name: _____
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Completed and Returned: _____

The facilities and services of the Maryland Department of Natural Resources are available to all without regard to race, color, religion, sex, sexual orientation, age, national origin or physical or mental disability. This document is available in alternative format upon request from a qualified individual with a disability.



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TTY 410-260-8835
<http://dnr.maryland.gov>
Robert L. Ehrlich, Jr., Governor
Michael S. Steele, Lt. Governor
C. Ronald Franks, Secretary

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Figure 1 (continued). Sample Bowhunter Survey Form

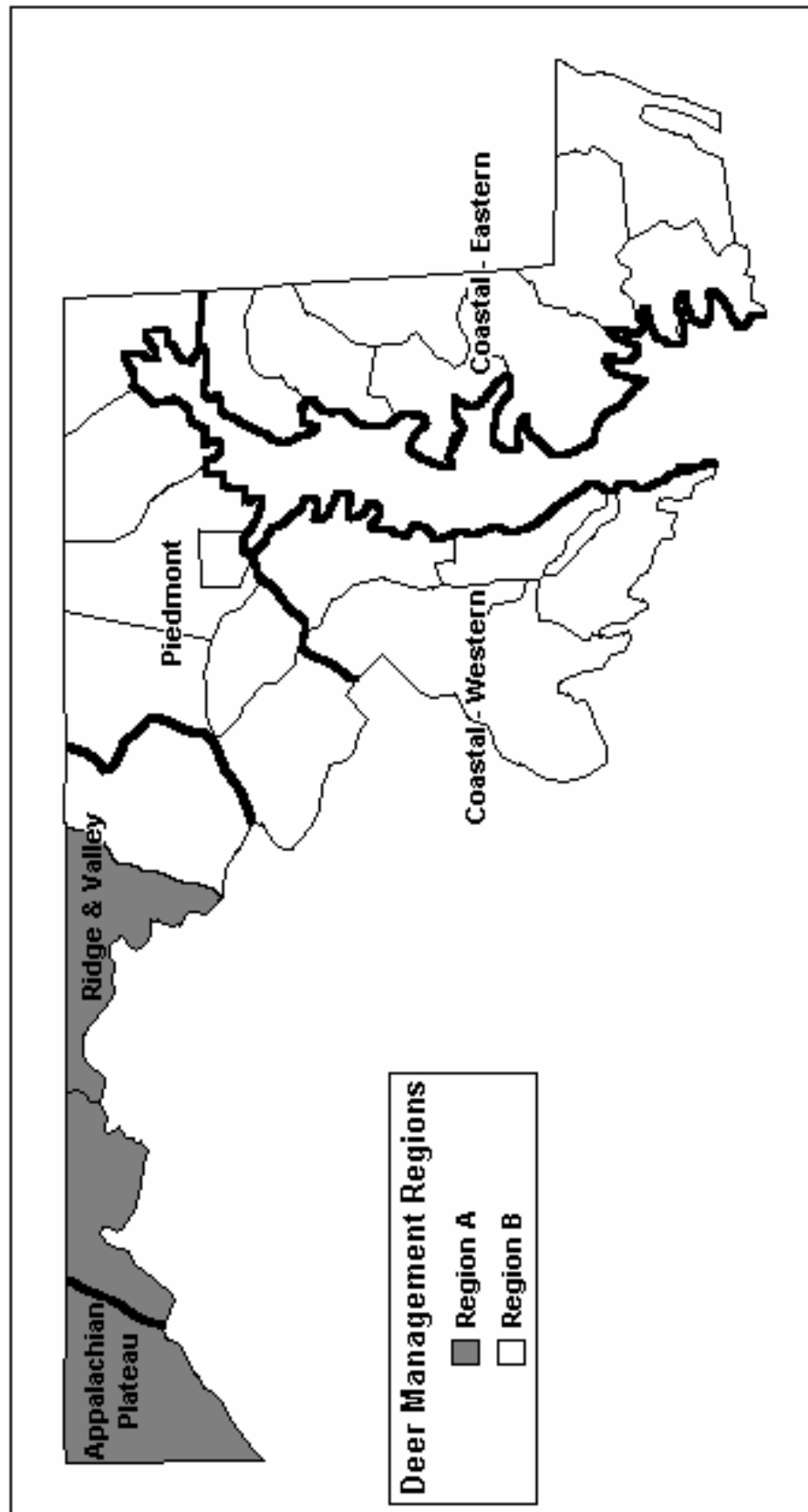


Figure 2. Physiographic Provinces for the annual Bowhunter Survey.

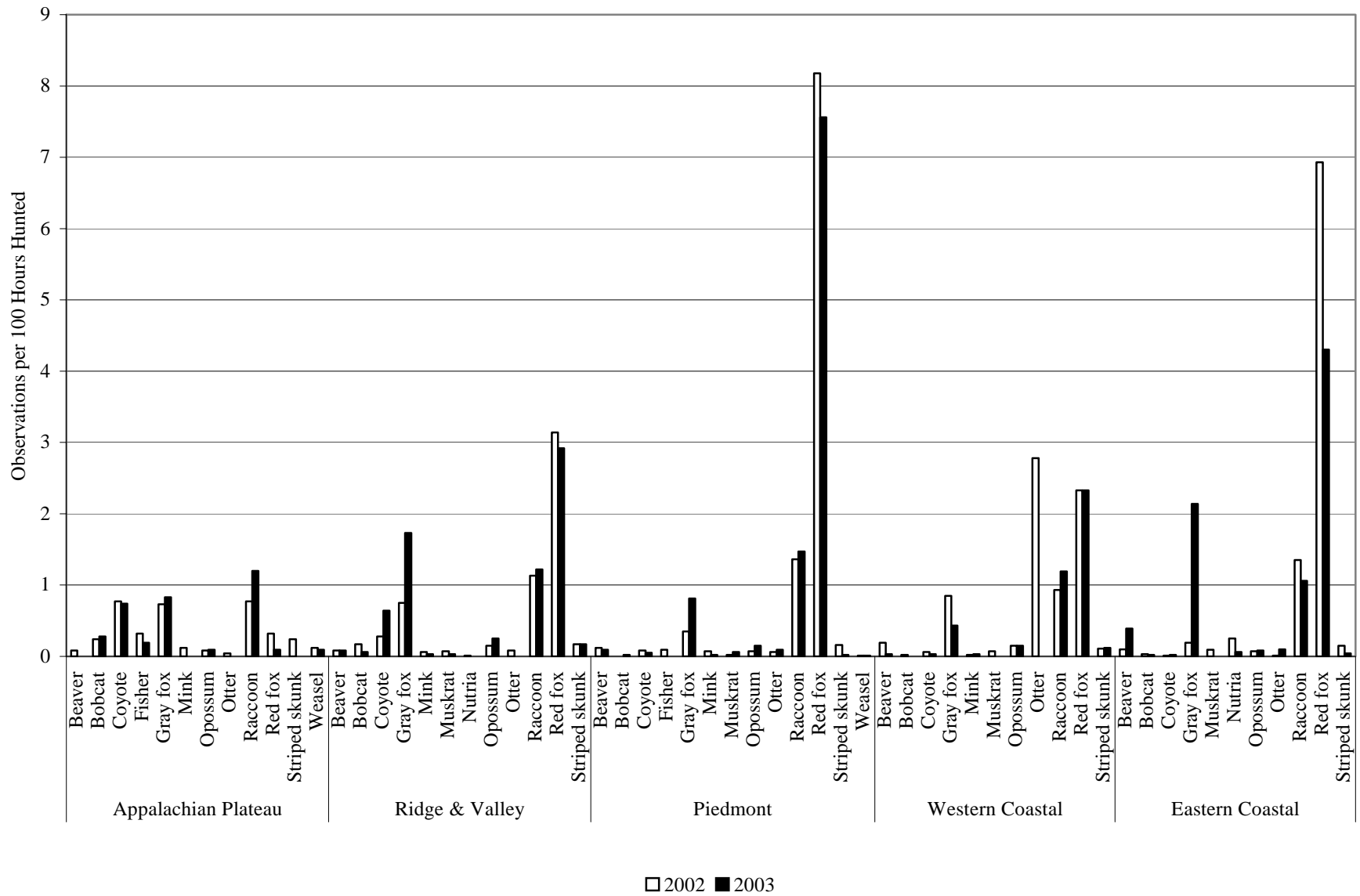


Figure 3. Furbearer observation rates by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

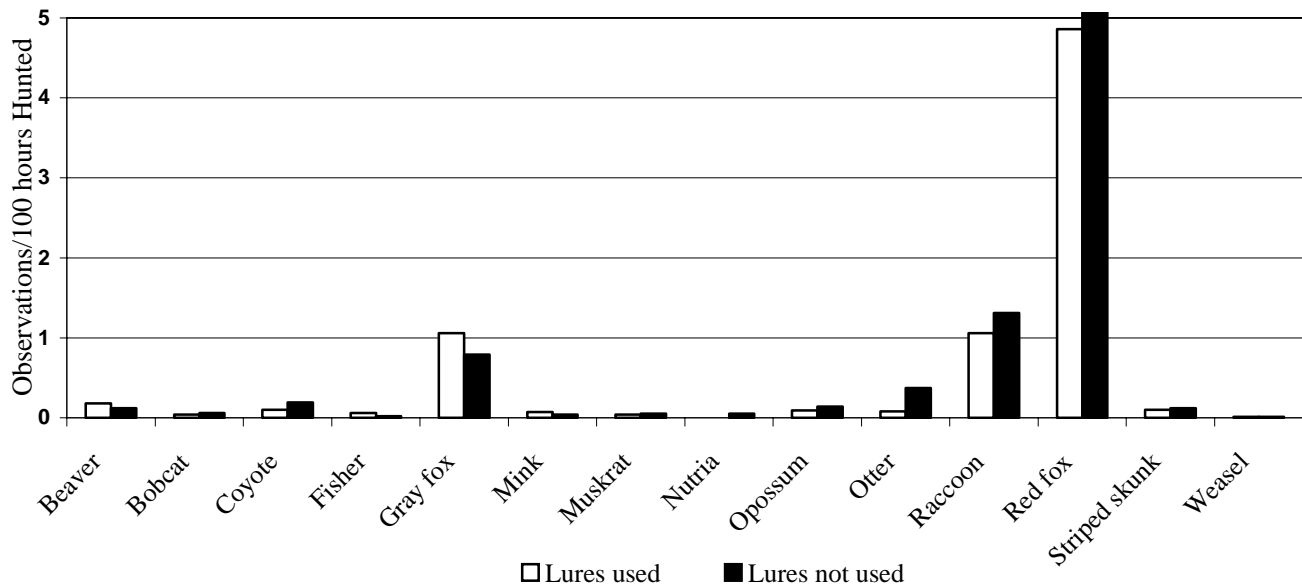


Figure 4. Furbearer observation rates and the use of lures by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

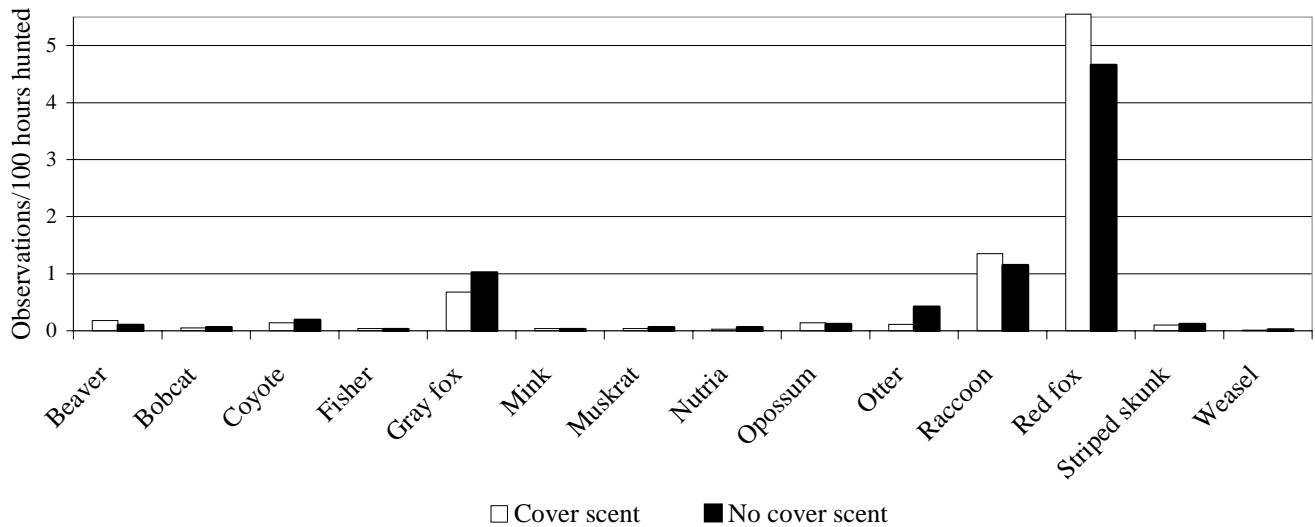


Figure 5. Furbearer observations by archery hunters using cover scents during the 2002-03 and 2003-04 Maryland archery seasons.

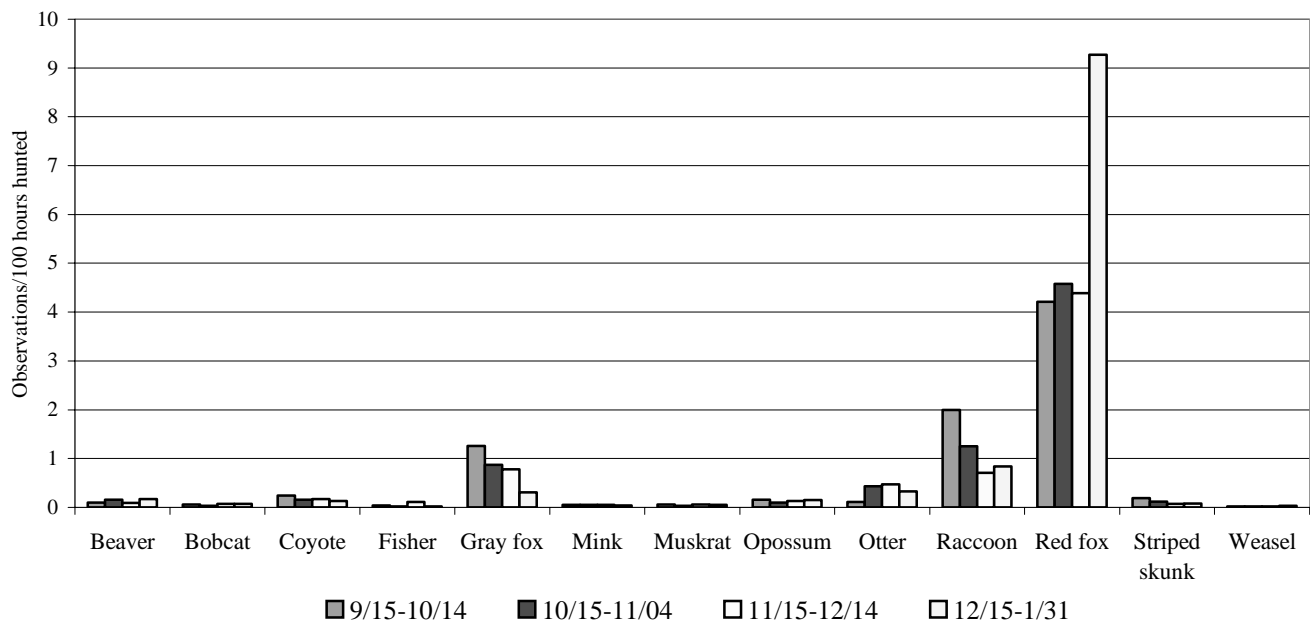


Figure 6. Monthly furbearer observation rates by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.

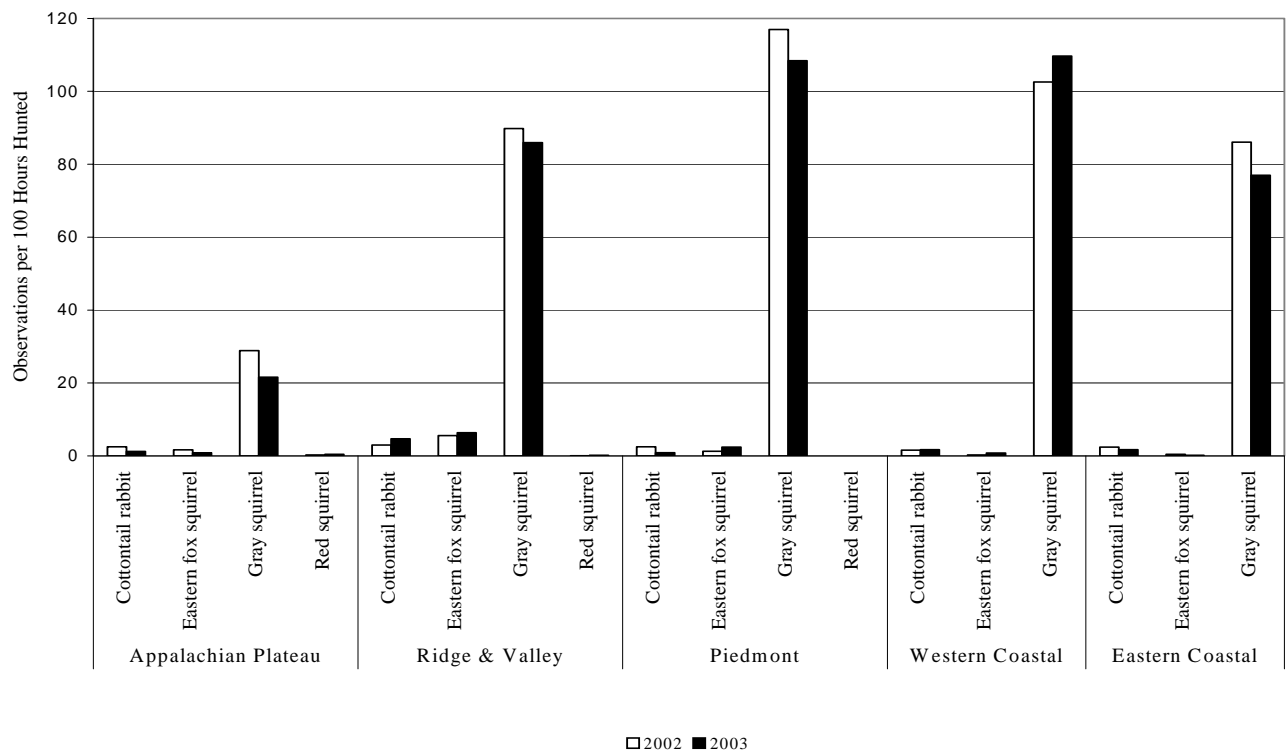


Figure 7. Rabbit and squirrel observation rates by archery hunters during the 2002-03 and 2003-04 Maryland archery seasons.